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APR 10 2008

CLAIMS

1. (Previously Presented) In a system comprising a first computer coupled to first and second storage devices, a method for providing copies of data, the method comprising:

cross-referencing (a) a hardware address identifying the first storage device and (b) a first device identifier for representing the first storage device to a program in the first computer;

cross-referencing (a) a hardware address identifying the second storage device and (b) a first device identifier for representing the second storage device to a program in the first computer;

pairing the first and second storage devices;

adding the pair, by information other than first device identifiers, to a copy group already containing another storage-device pair;

identifying the copy group;

cross-referencing the copy-group identifier and the first device identifiers of the pair; and

preparing to copy data, using the cross-reference.

2. (Previously Presented) The method according to claim 1 that comprises:

receiving a first input specifying one or more first device identifiers;

obtaining one or more hardware addresses in response to the first input; and

establishing the first map by associating the one or more hardware addresses with one or more first device identifiers.

3. (Currently Amended) The method according to claim 2, wherein:

the first computer receives the first input and, in response, sends one or more commands to a respective controller;

the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interrogating-interrogating either or both of control information in the respective controller and recording devices

coupled to the respective controller, and sends the obtained hardware addresses to the first computer; and

the first computer establishes the first map.

5 4. (Previously Presented) The method according to claim 3, wherein:

the first computer comprises a channel subsystem that controls transfers of data between the first computer and one or more recording devices coupled to the respective controller;

10 the first computer is coupled to the respective controller by a first data communication path that is a channel path coupled to the channel subsystem;

the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and

15 hardware addresses obtained by the respective controller are conveyed to the first computer through the first data communication path as one or more responses to the channel program.

20 5. (Previously Presented) The method according to claim 3, wherein the respective controller determines whether a respective recording device is capable of responding to a query command and returns the hardware address of the respective recording device only if the respective recording device is capable of responding to the query command.

6. (Previously Presented) The method according to claim 1,
wherein

25 each of the plurality of recording devices has a recording medium with a medium identifier that identifies the recording medium, and

the first map also provides a cross-reference between medium identifiers and either or both of hardware addresses and first device identifiers for respective recording devices, and

30 wherein the method comprises:

establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the medium identifiers for the one or more pairs of recording devices assigned to the copy group.

5 7. (Currently Amended) The method according to claim 1,
wherein the system comprises

a second ~~computer~~ coupled computer coupled to one or more controllers of which at least one of the controllers is coupled to one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group,

10 the method comprising:

obtaining a second map that provides a cross-reference between the hardware address of the respective recording device and a second device identifier that is associated with the respective recording device, wherein the second device identifier represents the respective recording device to programs executing in the second
15 computer; and

establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the second device identifiers of the one or more recording devices that are in the one or more pairs of recording devices assigned to the copy
20 group.

8. (Previously Presented) The method according to claim 7 that comprises:

receiving a second input specifying one or more second device identifiers;
obtaining one or more hardware addresses in response to the second input; and
establishing the second map by associating the one or more hardware

25 addresses with the one or more second device identifiers.

9. (Currently Amended) The method according to claim 8, wherein:

the second computer receives the second input and, in response, sends one or more commands to a respective controller;

30 the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by ~~interrogating~~ interrogating

either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends these obtained hardware addresses to the second computer; and

the second computer establishes the second map.

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10. (Previously Presented) The method according to claim 9, wherein:

the second computer comprises a channel subsystem that controls transfers of data between the second computer and one or more recording devices coupled to the respective controller;

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the second computer is coupled to the respective controller by a second data communication path that is a channel path coupled to the channel subsystem;

the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and

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hardware addresses obtained by the respective controller are conveyed to the second computer through the second data communication path as one or more responses to the channel program.

11. (Previously Presented) A storage medium

20

wherein is located a computer program for executing the method of claim 1.

12. (Previously Presented) A storage medium

wherein is located a computer program for executing the method of claim 2.

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13. (Previously Presented) A storage medium

wherein is located a computer program for executing the method of claim 3.

14. (Previously Presented) A storage medium

wherein is located a computer program for executing the method of claim 4.

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15. (Previously Presented) A storage medium

wherein is located a computer program for executing the method of claim 5.

16. (Previously Presented) A storage medium
wherein is located a computer program for executing the method of claim 6.

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17. (Previously Presented) A storage medium
wherein is located a computer program for executing the method of claim 7.

18. (Previously Presented) A storage medium
10 wherein is located a computer program for executing the method of claim 8.

19. (Previously Presented) A storage medium
wherein is located a computer program for executing the method of claim 9.

15 20. (Previously Presented) A storage medium
wherein is located a computer program for executing the method of claim 10.

21. (Previously Presented) A computer system comprising
a CPU;
20 the storage medium of Claim 11; and
a bus coupling the CPU and the storage medium.

22. (Previously Presented) A computer system comprising:
a CPU;
25 the storage medium of Claim 12; and
a bus coupling the CPU and the storage medium.

23. (Previously Presented) A computer system comprising:
a CPU;
30 the storage medium of Claim 13; and
a bus coupling the CPU and the storage medium.

24. (Previously Presented) A computer system comprising:
a CPU;
the storage medium of Claim 14; and
5 a bus coupling the CPU and the storage medium.
25. (Previously Presented) A computer system comprising:
a CPU;
the storage medium of Claim 15; and
10 a bus coupling the CPU and the storage medium.
26. (Previously Presented) A computer system comprising:
a CPU;
the storage medium of Claim 16; and
15 a bus coupling the CPU and the storage medium.
27. (Previously Presented) A computer system comprising:
a CPU;
the storage medium of Claim 17; and
20 a bus coupling the CPU and the storage medium.
28. (Previously Presented) A computer system comprising:
a CPU;
the storage medium of Claim 18; and
25 a bus coupling the CPU and the storage medium.
29. (Previously Presented) A computer system comprising:
a CPU;
the storage medium of Claim 19; and
30 a bus coupling the CPU and the storage medium.

30. (Previously Presented) A computer system comprising:

a CPU;

the storage medium of Claim 20; and

a bus coupling the CPU and the storage medium.

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31. (New) The method of claim 1 wherein the preparing to copy data comprises preparing to recover data.

32. (New) The method of claim 1 further comprising:

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recovering data, using the cross-reference.